

extending longitudinally parallel to and along their edges such that each pair of adjacent elongated fin-like members defines therebetween a channel. Each elongated fin-like member includes an inner layer of dielectric material disposed between a first layer of conductive material and a second layer of conductive material such that the layers of conductive material face each other within each channel.

The Examiner indicates that Simons discloses substantially the tape of claim 1 with the exception Simons does not disclose the layer of dielectric material being an inner layer such that the layers of conductive material face each other within each channel. The Examiner further indicates that although not specifically disclosed, modification of the tape of Simons to have the layers of conductive material facing each other within each channel would have been obvious to one of ordinary skill in the art. The Examiner cites *In re Einstein*, 8 U.S.P.Q. 166 as support for this conclusion because *Einstein* holds that merely reversing the essential working parts of a device involves only routine skill in the art. Applicants respectfully disagree with the Examiner's analysis and conclusion for the reasons discussed below.

Applicants agree with the Examiner that *Einstein* holds that the mere reversal or transposition of essential elements of an alleged invention is obvious and does not constitute invention. *See*, page 2. However, *Einstein* also provides that there must be some new device or some new and useful purpose accomplished to constitute invention. *Id.* Applicants respectfully submit that the tape of claim 1 is not obvious in view of Simons. In addition, the Applicants respectfully submit that the tape of claim 1 is not the result of mere reversal of the layers of dielectric and conductive material of Simons. Rather, the tape of claim 1 embodies an entirely new structure that is different from the tape/shield that Simons discloses. In addition, the tape of claim 1 provides a new and useful purpose with respect to manufacturing cables having pairs of conductors and with respect to electrically shielding and physically isolating conductor pairs of cables that cannot be achieved using the tape/shield of Simon. Further, the tape of claim 1 achieves other performance objectives that are not disclosed or are obvious in view of Simons.

The tape of claim 1 is not obvious in view of Simons. As the Examiner knows, obviousness is established by relying on or combining the teachings of the prior art to produce

the claimed invention *where there is some teaching or suggestion to do so found either in the prior art references themselves or in the knowledge generally available to one of ordinary skill in the art.* (MPEP 2143.01). To reach a proper determination of obviousness under 35 U.S.C. § 103, hindsight provided by Applicants' disclosure must be avoided and the conclusion of obviousness must be reached on the basis of the facts gleaned from the prior art. In view of this factual information, a determination can then be made whether the claimed invention "as a whole" would have been obvious at the time the invention was made. (MPEP 2142).

Applicants respectfully submit that Simons does not provide a teaching or suggestion for modifying the tape/shield disclosed therein to include the inner layer of dielectric material disposed between a first layer of conductive material and a second layer of conductive material such that the layers of conductive material face each other within each channel. Rather, in contrast with claim 1, the tape/shield of Simons includes a variety of configurations wherein each includes a basic structure of a plastic film layer (11) and a heat-fusible plastic film layer (16) constructed and arranged to enclose or encapsulate therein layers of metal foil (10). The layers of metal foil (10) serve as an electrical shield when disposed within a cable to help to shield adjacent pairs of conductors.

Simons provides no support for any modification to its shielding tape that would result in the tape of claim 1 because the tape/shield of Simons is constructed and arranged *to encapsulate or enclose the shielding foil layers*. The shielding foil layers are encapsulated or enclosed to prevent electrical contact of the shielding foil layers with adjacent conductors. This application is in direct contrast to the purposes of the structure and arrangement of the tape of claim 1, as will be described in more detail below. In addition, the tape/shield of Simons encapsulates or encloses the shielding foil layers to minimize or prevent damage and/or corrosion of the shielding foil layers by moisture, and to provide reflectivity at the foil-to-foil interface, which provides increased shielding effectiveness of the foil layers. Simons, therefore, does not teach or suggest the modification as the Examiner suggests.

In addition, Simons provides no reasoning for such modification because Simons is directed to a tape/shield having a different structure and arrangement than the tape of claim 1 and that achieves difference purposes than the claimed invention.

Further, the tape/shield of Simons cannot be modified by simply reversing the essential working layers to achieve the tape of claim 1, as the Examiner suggests. Such modification would result in a structure and arrangement of the tape/shield of Simons that could not meet the purposes of Simons including: encapsulating the shielding foil layers to prevent contact with adjacent conductors, minimizing or reducing moisture damage or corrosion to the foil layers, and increasing the shield effectiveness due to the reflectivity of the foil-to-foil interface.

Thus, on the basis of the facts gleaned from Simons, the tape of claim 1 would not have been obvious to one of ordinary skill in the art at the time of the invention.

The tape of claim 1 provides an entirely different structure from that of the tape/shield of Simons. The first layer and the second layer of conductive material face each other within each channel defined by each pair of adjacent elongated fin-like members. Applicants respectfully submit that the channels defined by layers of conductive material are different from channels defined by layers of plastic film or heat-fusible plastic. In addition, such channels serve different purposes wherein the channels of the tape of claim 1 help to form a continuous conductive shield around pairs of conductors, as described in more detail below, while the channels of the tape/shield of Simons enclose and protect the shielding foil layers.

Furthermore, the tape of claim 1 provides a new and useful purpose with respect to manufacturing cables having pairs of conductors and with respect to electrically shielding and physically isolating conductor pairs. The tape of claim 1 is structured and arranged such that the first and the second layers of conductive material of each elongated fin-like member face each other within each channel and the inner layer of dielectric material is disposed between the first and the second conductive layers. One or more pairs of conductors are disposed within each channel of the tape during manufacturing and the tape and conductor pairs are simultaneously wrapped, e.g., using one or more forming dies. Each pair of conductors is thereby individually wrapped and completely encapsulated within the conductive layers of each channel. The channels of the tape thereby provide a continuous foil-to-foil wrap that surrounds and encases each pair and results in foil-to-foil contact. This is in direct contrast to the application of the tape/shield of Simons.

Unlike other prior art tapes and methods that either longitudinally cigarette-wrap or helically wrap a tape around conductor pairs that result in foil-to-film contact, which causes inconsistent shielding, signal leakage or interference and crosstalk, the tape of claim 1 provides a foil-to-foil wrap that results in a consistent, closed conductive shield around each pair. The continuous shield achieved by the tape of claim 1 helps to reduce crosstalk between pairs, to reduce alien crosstalk between cables and to prevent cables from causing or receiving electromagnetic interference, which can interfere with or degrade signals and data transmission. In addition, the level of shielding and isolation of conductor pairs achieved with the tape of claim 1 helps to provide more consistent and predictable electrical properties and qualities that result in finished cables of higher performance. Further, the tape of claim 1 helps to provide more consistent geometry to finished cables than cables produced by individually wrapping pairs of conductors.

Thus, Applicants respectfully submit that *Einstein* does not apply to the claimed invention, as the tape of claim 1 is not mere reversal of essential working parts of Simons. Rather, the claimed invention constitutes an entirely different structure and arrangement from the tape/shield of Simons and is directed to a new and useful purpose.

In contrast with claim 1, neither the admitted prior art or Simons discloses a tape with a number of elongated fin-like members where each member includes an inner layer of dielectric material disposed between a first layer of conductive material and a second layer of conductive material such that the layers of conductive material face each other within each channel. Accordingly, claim 1 is patentably distinguishable over the admitted prior art and Simons, and the rejection of claim 1 under 35 U.S.C. 103(a) should be withdrawn.

Claims 2-3, 9-12, 14 and 16 depend from claim 1 and are patentable for at least the same reasons given above. The rejection of such claims under 35 U.S.C. § 103(a) should be withdrawn.

Rejection of Claims 4-8 Under 35 U.S.C. § 103(a)

Claims 4-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Simons in view of U.S. 6,288,340 to Arnould ("Arnould"). Applicants respectfully traverse

the rejection of claims 4-8 under 35 U.S.C. § 103(a). Claims 4-8 depend from claim 1 and are patentable for at least the reasons given above with respect to claim 1.

Rejection of Claims 13 and 15 Under 35 U.S.C. § 103(a)

Claims 13 and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Simons in view of U.S. 5,956,445 to Deitz, Sr. et al. ("Deitz"). Applicants respectfully traverse the rejection of claims 13 and 15 under 35 U.S.C. § 103(a). Claims 13 and 15 depend from claim 1 and are patentable for at least the reasons given above with respect to claim 1.

Rejection of Claims 1 and 17-25 Under 35 U.S.C. § 103(a)

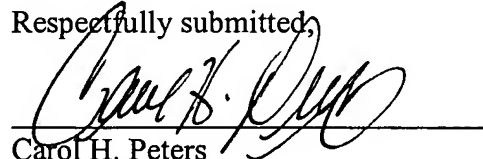
Claims 1 and 17-25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Arnould ("Arnould"). Applicants respectfully traverse the rejection of claims 1 and 17-25 under 35 U.S.C. § 103(a).

Applicants respectfully submit that the same discussion provided above with respect to the patentability of claim 1 over Simons applies to the rejection of claims 1 and 22; and claims 1 and 22 are patentably distinguishable over Arnould for substantially the same reasons. Accordingly, the rejection of claim 1 and 22 under 35 U.S.C. § 103(a) should be withdrawn.

Claims 17-21 depend from claim 1 and claims 23-25 depend from claim 22 and are patentable for at least the same reasons given above. The rejection of claims 17-21 and 23-25 under 35 U.S.C. § 103(a) should be withdrawn.

Based upon the foregoing discussion, the application is believed to be in condition for allowance, and a notice to this effect is respectfully requested. Should the Examiner have any questions concerning this response, the Examiner is invited to telephone the undersigned at the telephone number provided.

Respectfully submitted,



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